

REMARKS

I. Status Of Claims

Claims 1-5 and 7-10 are pending in the present application. Claim 1 is amended herein. Claims 2-4 are canceled. Claim 11 has been added. Therefore, upon entry of this Amendment, Claims 1, 5, and 7-11 will be pending. No new matter has been introduced by the present amendment. Reconsideration of the application as amended and based on the arguments set forth hereinbelow is respectfully requested.

Claim 1 has been amended to include the features of canceled Claims 2-4.

II. Claim Rejections Under 35 U.S.C. § 112

Claims 1 and 3 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner stated that Claim 1 provides insufficient antecedent basis for the "the frequency-dependent signal feedback" feature at lines 7 and 8. (Official Action, page 2.) Claim 1 has been amended to replace the feature of "the frequency-dependent signal feedback" with "a frequency-dependent signal feedback". Applicant respectfully submits that this amendment provides proper antecedent basis for the feature.

Further, the Examiner stated that Claim 1 provides insufficient antecedent basis for the "the signal output" feature at line 11. (Official Action, page 2.) Claim 1 has been amended to recite "an operational amplifier having...a signal output" prior to the recitation of "the signal output" at line 11. Therefore, applicant respectfully submits that

Claim 1 now provides proper antecedent basis for the feature “the signal output” at line 11.

The Examiner also stated that Claim 1 provides insufficient antecedent basis for the “the signal line connection” feature at line 13. (Official Action, page 2.) Claim 1 has been amended to recite “a signal line connection for connecting a signal line” prior to the recitation of the “the signal line connection” feature at line 13. Therefore, applicant respectfully submits that Claim 1 now provides proper antecedent basis for the feature.

Regarding Claim 3, the Examiner stated that it is unclear as to whether “a signal line connection” recited in the last line is an additional feature of “the signal line connection” recited by Claim 1. Further, the Examiner stated that the “for the connection of a signal line” feature at the last line appears to be redundant when recited with “a signal line connection”. As previously stated, Claim 3 has been canceled. Therefore, the rejection of Claim 3 is moot.

As previously stated, Claim 1 has been amended to include the features of canceled Claim 3. Specifically, Claim 1 recites “a signal line for connecting a signal line” and not “a signal line for connection of a signal line, as recited by canceled Claim 3. Further, Claim 1 also recites that the useful signal is applied to a signal input of the driver circuit and that the useful signal is connected with one of the signal inputs of the operation amplifier. Claim 1 also recites that the feedback circuit is connected with the other one of the signal inputs of the operational amplifier. For these reasons, applicant respectfully submits the features recited by Claim 1 that are included from canceled Claim 3 are clear.

Applicant respectfully submits that the amendments to Claim 1 overcome the rejection of the Claim 1 under 35 U.S.C. §112, second paragraph. Further, the rejection of Claim 3 under 35 U.S.C. §112, second paragraph, is moot due to the cancellation of the claim.

III. Claim Rejections Under 35 U.S.C. §§102 and 103

Claims 1-4 and 7-9 stand rejected by the Examiner under 35 U.S.C. §102(b) as being anticipated by the publication Tietze et al., Halbleiter-Schaltungstechnik, 11. Aufl., Berlin [u.a.] (hereinafter, "Tietze"). Further, Claim 5 stands rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Tietze in view of applicant's admitted prior art depicted by Figure 1 or Figure 3 of the subject application (hereinafter, "AAPA"). In addition, Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tietze. These rejections are respectfully traversed.

Claim 1 recites a driver circuit for driving a useful signal. Claim 1 has been amended to recite a signal input for applying a useful signal. Further, Claim 1 recites at least one amplifier circuit with low output impedance for the signal amplification of the useful signal. Claim 1 has been amended to recite that the amplifier circuit is an operational amplifier having an inverting signal input, a non-inverting signal input and a signal output. One of the signal inputs of the operational amplifier is connected with the signal input for applying the useful signal. Claim 1 recites that a protection impedance respectively connected downstream of the amplifier circuit and serving to protect the amplifier circuit. Further, Claim 1 has been amended to recite that the protection impedance is connected between the signal output of the operational amplifier and a

signal line connection for connecting a signal line. The signal line is a telephone line for connecting a telephone to the driver circuit. Claim 1 also recites that provision is respectively made of a feedback circuit for a frequency-dependent signal feedback of the useful signal amplified by the amplifier circuit. Further, Claim 1 recites that the signal feedback circuit has a capacitor, which is connected between the signal output of the operational amplifier and the other one of the signal inputs of the operational amplifier, and a resistor, which is connected between the signal line connection and the signal input of the operational amplifier.

Applicant notes that Tietze was originally submitted in a document written in German. A German-to-English translation was performed on the document. Applicant provides herewith a certified copy of the English translation of Tietze and an associated certification document. Applicant's remarks below with regard to Tietze reference the English translation of Tietze.

Tietze is directed to a capacitive load operated by an operational amplifier. The Examiner stated that the driver circuit shown in Figure 5.46b of Tietze teaches the features recited by Claim 1. (Official Action, page 3.) Referring to Figure 5.46b of Tietze, output resistance r_a of the operational amplifier and capacitive load C_L results in a low-pass filter. The graphs of Figure 5.43 show that with capacitive loads having a greater capacity, the phase shift above the cut-off frequency f_{gc} of the low-pass becomes so high that the circuit may begin to oscillate. Tietze teaches that a correction of the frequency response is necessary in order to prevent circuit oscillation. In particular, Tietze teaches connecting an isolation resistance R_{iso} between the output of

the operation amplifier and the capacitive load C_L . At high frequencies, the capacitive load C_L represents a short circuit, and, at the output of the amplifier, there is only a voltage divider consisting of output resistance r_a and isolation resistance R_{iso} . Further, Tietze also teaches that in some cases it is not possible to use the isolation resistance R_{iso} since the load cannot be operated at low resistance. In this case, Tietze proposes using a capacitor C_k (as shown in Figure 5.46a) for compensating the phase lag caused by capacitive load C_L . In other cases, Tietze teaches the use of a combination of isolation resistance R_{iso} and a capacitor C_k (as shown in Figure 5.46b). Therefore, applicants respectfully submits that the object of the circuit disclosed by Tietze is to compensate the phase lag caused by the capacitive load C_L .

In contrast, amended Claim 1 recites that the signal line is a telephone line for connecting a telephone to a driver circuit. Thus, the problem underlying the claimed subject matter is not a phase lag caused by capacitive load as taught by Tietze. Rather, the driver circuit recited by Claim 1 shall ensure a very high longitudinal conversion loss (LCL). The underlying problem and the application of the driver circuit as recited by Claim 1 are different than the circuit taught by Tietze. Applicant respectfully submits that one of ordinary skill in the art would not use the teachings of Tietze to solve the problem described therein since Tietze teaches different problems such as capacitive load and phase lag.

Further, in the driver circuits taught by Tietze, input signal U_e is applied to the same input of the operational amplifier as the feedback circuit. In contrast, Claim 1 requires that the useful signal and the feedback circuit are connected to different inputs

of the operational amplifier. In particular, Claim 1 recites that useful signal is connected to one of the signal inputs of the operational amplifier, and that the signal feedback circuit has a capacitor, which is connected between the signal output and the other one of the signal inputs not connected to the useful signal. Therefore, Tietze fails to teach each and every feature recited by Claim 1. Further, applicant respectfully submits that Tietze fails to suggest the features recited by Claim 1.

Claims 2-4 have been canceled. Therefore, the rejection of Claims 2-4 should be withdrawn.

Claims 5 and 7-10 depend from Claim 1. Therefore, the comments presented above relating to Claim 1 apply equally to Claims 5 and 7-10.

Applicants respectfully submit that the teachings of Tietze does not teach or suggest each and every feature of the present subject matter, and therefore that Claims 1, 5, and 7-10 are not obvious in view of the Tietze. Applicant, therefore, respectfully requests that the rejection of Claims 1, 5, and 7-10 under 35 U.S.C. §§ 102 and 103 be withdrawn and the claims allowed at this time.

New Claim 11 depends from Claim 1. Therefore, the comments presented above relating to Claim 1 apply equally to Claim 11. Therefore, applicant respectfully submits that Claim 11 is patentable over Tietze for at least the same reasons as Claim 1.

CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and such action is earnestly solicited.

If any minor issues should remain outstanding after the Examiner has had an opportunity to study the Amendment and Remarks, it is respectfully requested that the Examiner telephone the undersigned attorney so that all such matters may be resolved and the application placed in condition for allowance without the necessity for another Action and/or Amendment.

DEPOSIT ACCOUNT

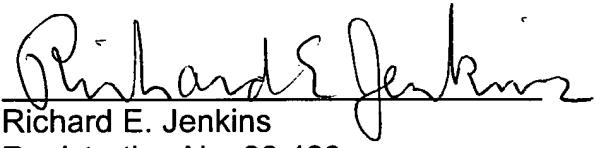
Although it is believed that no fee is due, the Commissioner is hereby authorized to charge any deficiencies of payment associated with the filing of this Response to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: June 30, 2005

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